

REMARKS

With respect to the objection to FIG. 1, a corrected figure is submitted herewith with the extraneous matter deleted. The corrected figure corresponds to FIG. 1 as originally filed with proper margins. No new matter has been added.

Regarding the objection with regard to the format of claims 24-27, 29-34 and 36-37, these claims have been amended for enhanced clarity. The system which was previously inferentially recited in the preamble is now more positively recited, making it more clear that the storage medium, i.e., memory, forms a part of the system. The objection is thus rendered moot.

The Examiner has again rejected claims 10-12 and 14-23 under 35 U.S.C. § 101 as being directed to non-statutory subject matter, but has made no acknowledgment of the previous explanation of the statutory basis for those claims. In particular, the Examiner has appeared to ignore the explicit claim limitation of “forming at least one code word . . .” This is a specific and explicit practical application. Applicants again respectfully traverse this rejection.

In AT&T Corp. v. Excel Communications, Inc., 172 F.3d 1352 (Fed. Cir. 1999) the Federal Circuit stated:

The Supreme Court has construed § 101 broadly, noting that Congress intended statutory subject matter to “include anything under the sun that is made by man.” *See Diamond v. Chakrabarty*, 447 U.S. 303, 309 ... (1980) (quoting S. Rep. No. 82-1979, at 5 (1952); H.R. Rep. No. 82-1923, at 6 (1952)); *see also Diamond v. Diehr*, 450 U.S. 175, 182... (1981). Despite this seemingly limitless expanse, the Court has specifically identified three categories of unpatentable subject matter: “laws of nature, natural phenomena, and abstract ideas.” *See Diehr*...

The signals formed by the methods of claims 10-12 and 14-23 are not laws of nature, natural phenomena, or abstract ideas and are thus patentable under *AT&T Corp. v. Excel Communications, Inc.*. The signals formed by the methods of claims 10-12 and 14-23 are manmade and have functional utility. Furthermore, section 2106 IV.B.1.(c) (p. 2100-14) of the February 2003 Revision of the Manual of Patent Examining Procedure (Original Eighth Edition, August 2001, hereinafter “M.P.E.P”) and the authority cited therein specifically supports the patentability of claims directed to signals:

(c) Natural Phenomena Such as Electricity and Magnetism

Claims that recite nothing but physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, *per se*, and as such are nonstatutory natural phenomena. *O'Reilly v. Morse*, 56 U.S. (15 How.) 62, 112-14 (1853). **However, a signal claim directed to a practical application of electromagnetic energy is statutory regardless of its transitory nature.** See *O'Reilly*, 56 U.S. at 114-19; *In re Breslow*, 616 F.2d 516, 519-21, 205 USPQ 221, 225-26 (CCPA 1980).

Section 2106 IV.B.1.(c) of the M.P.E.P. (*emphasis added*)

Claims 10-12 and 14-23 are directed to a method of forming codes from signals. The step of forming a code word is explicitly recited. The code signals have practical application as Large-Area Code-Division-Multiple-Access codes and, as such, are patentable under *AT&T Corp. v. Excel Communications, Inc.* as well as Section 2106 IV.B.1.(c) of the M.P.E.P. and the authority cited therein.

Claims 10 and 14 were rejected under 35 USC 102 as anticipated by JP 430177900A. This rejection is respectfully traversed. The basis for this rejection is not entirely understood. The Examiner's explanation is nothing more than a recitation of the limitations of claim 10 without any specific reference to the disclosure of the prior art. The general reference to the abstract and Fig. 4 does not identify or explain how the Examiner finds those limitations in the cited prior art when, in fact, the words present appear to exactly contradict the claimed invention.

The limited disclosure provided for the cited reference very clearly describes "a [sic] equal-interval pulse train." Moreover, the pulse intervals are described as differing only "subframe by subframe." This is a completely different arrangement from the present invention, which claims (1) plural pulse trains, and (2) all pulse intervals of each pulse train being unequal to any other pulse interval within its own pulse train. The prior art "equal-interval pulse train" is diametrically opposed to the claimed pulses that are "unequal in duration." For this reason alone, claim 10 and all claims dependent thereon are allowable over the cited reference.

Claims 16, 18, 19, 21, 24, 31 26, and 37 were rejected under 35 USC 103 as obvious over the JP 430177900A reference. The rejection is also respectfully traversed. First and foremost, the cited reference does not teach or disclose the basic features of the present invention of plural pulse trains with each pulse train comprised of completely unequal pulse intervals. With respect to claims 21 and 37, the Examiner states it would have been obvious

to combine the cited reference with the known use of a Barker code. This rejection is insufficient. While Barker codes may be generally known, there is no general knowledge that such a code could be used in increasing a duty ratio of represented code words as recited in claim 21, which is dependent on claims 18 and 10. In the circumstances, the Examiner must provide documentary evidence to support such an assertion (MPEP 2144.03). The remaining rejections are merely conclusory assertions that are completely unsupported by any actual disclosure or teaching in the cited reference. The only teachings to this effect in the record are in applicant's own application. In fact, as stated above, the teaching of the reference are exactly opposite the claimed invention.

CONCLUSION

Applicants respectfully request entry of the foregoing amendments and remarks into the file of the above-identified application. Applicants believe that each ground for rejection has been successfully overcome or obviated, and that all the pending claims are in condition for allowance. Withdrawal of the Examiner's rejections and allowance of the application are respectfully requested.

Respectfully submitted,

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